HICKOK

OPERATING INSTRUCTIONS
FOR
VACUUM TUBE TESTER
MODEL KS-15750-L2

THE HICKOK ELECTRICAL INSTRUMENT COMPANY · 10514 Dupont Avenue, Cleveland 8, Ohio

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OPERATING INSTRUCTIONS

FOR

VACUUM TUBE TESTER

MODEL KS-15750-L1-L2

THE HICKOK ELECTRICAL INSTRUMENT COMPANY
10514 Dupont Avenue - Cleveland 8, Ohio

Code No. 2490-272

STANDARD EIA GUARANTEE

The Hickok Electrical Instrument Company warrants instruments manufactured by it to be free from defective material or factory workmanship and agrees to repair such instruments which, under normal use and service, disclose the defect to be the fault of our manufacturing. Our obligation under this warranty is limited to repairing any instrument or test equipment which proves to be defective, when returned to us transportation prepaid, within 90 days from the date of original purchase, and provided the serial number has been made known to us promptly for our records.

This warranty does not apply to any of our products which have been repaired or altered by unauthorized persons or service stations in any way so as, in our judgment, to injure their stability or reliability, or which have been subject to misuse, negligence, or accident, or which have had the serial number altered, effaced or removed. Neither does this warranty apply to any of our products which have been connected, installed, or adjusted otherwise than in accordance with the instructions furnished by us. Accessories, including all vacuum tubes not of our manufacture, used with this product are not covered by this warranty.

This warranty is in lieu of all other warranties expressed or implied, and no representative or person is authorized to assume for us any other liability in connection with the sale of our products.

Parts will be made available for a minimum period of five years after the manufacture of this equipment has been discontinued. Parts include all materials, charts, instructions, diagrams, accessories, etc., which have been furnished in the standard model.

RETURNING EQUIPMENT FOR REPAIR

Before returning any equipment for service, under warranty or otherwise, the factory must first be contacted giving the nature of the trouble. Instructions will then be given for either correcting the trouble or returning the equipment. Upon authorization, this equipment should be forwarded directly to the Hickok factory address, 10636 Leuer Avenue, Cleveland, Ohio, or to a designated service station in your locality. All correspondence pertaining to repairs should be directed to the Hickok office address, 10514 Dupont Avenue, Cleveland 8, Ohio, or to the authorized service station designated.

REGISTRATION CARD

The above guarantee is contingent upon the attached registration card being returned to the factory immediately upon receipt of the equipment.

THE HICKOK ELECTRICAL INSTRUMENT COMPANY
Cleveland, Ohio

THE INSTRUMENT PACKED HEREWITH IS:

	PACKER'S	CHECK
1 - MODEL KS-15750-L1 VACUUM TUBE TESTER		
ACCESSORIES INCLUDED WITH THE TESTER ARE:		
1 - BOOKLET INSTRUCTIONS		
2 - GRID LEADS WITH CLIP		
SERIAL NO.		
SIGNED:		

INSTRUCTIONS FOR OPERATION OF MODEL KS-15750-L1

Read these instructions through before attempting to operate the tester.

1. There are two rectifier tubes, an 83 and a 6Y3 necessary to operate this tester. They are included.

The Short Lamp is a 1/25 watt 110 volt miniature bayonet base type NE51 neon signal lamp made by The General Electric Company. This lamp will last indefinitely unless broken.

The Fuse Lamp is a standard No. 81 single contact auto bulb. This can be procured from any auto dealer or gasoline station attendant. This fuse lamp is in the primary circuit of the transformer.

2. Use on 60 cycles, 110-125 volt circuit.

FUNCTIONS OF THE VARIOUS CONTROLS

3. The line adjustment control rheostat in the KS-15750-L1 tester is connected with a small A. C. voltmeter as a constant calibration indicator which is normally always in circuit. The small A. C. voltmeter may also be used to register 60 cycles A. C. line voltage fed to the set by operating the test button P7 designated "LINE TEST" in the lower right part of the control panel. Reset the A. C. voltmeter to the red mark at 100 volts after depressing P4.

4. SELECTORS. The row of selector dials across the center of the control panel is for the purpose of conducting proper voltages to the tube's base pins. The operation of setting these dials is similar to DIALING A TELEPHONE NUMBER. On the roll data chart, below the word SELECTORS, appear the dialing numbers. These dialing numbers consist of two letters and five figures. Example: JR-6237-5. Starting at the left the first dial is turned until the letter "J" appears through the window. The second dial is turned until "R" appears. The third dial indicates 6;

the fourth, 2; the fifth, 3; the sixth, 7; and the seventh, 5.

The lettered dials control the filament or heater connections. The numbered dials control the GRID, PLATE, SCREEN, CATHODE and SUPPRESSOR in that order. In the example given above the heater terminals are connected to pins 8 and 1. The GRID is connected to pin 6; PLATE, to pin 2; SCREEN, to pin 3; CATHODE, to pin 7, and SUPPRESSOR, to pin 5.

These dial switches are electrically interlocked in such a way that it is impossible to connect two different voltage elements to the same pin. Thus accidental shorts are avoided.

The dialing system is designed so that a minimum of dial setting is required. For example, the heater setting is practically always JR so that these two dials seldom need resetting. It will also be noticed that when testing duo-diode triode tubes the amount of dialing has been reduced to a minimum.

The KS-15750-L1 set also provides a cathode activity test circuit controlled by the toggle switch designated "CATH. ACT." with a "NORMAL" position and a "TEST" position. In the "TEST" position the filament voltage of a tube is reduced by 10% of its Normal Value.

5. SHORT TEST. Turning the SHORTS switch successively through the positions 1-2-3-4-5 connects the various pairs of elements in turn across the test voltage. Tubes having shorted elements will complete the circuit and cause the neon SHORT lamp to glow. Tubes may be tested for shorts, either hot or cold.

A short is indicated by a steady glow of the neon lamp in certain positions of the shorts switch. Ordinarily shorts so indicated will be in the order of 100,000 to 200,000 ohms, and, of course, sometimes less, but never exceed 0.47 megohms.

6. LOCATING SHORTED ELEMENTS. In the following table (X) under any SHORT Switch position indicates that the neon lamp glows in that position.

KIND OF SHORT	1	2	3	4	5
HEATER - CATH.	X				
HEATER - GRID.	X	X			
HEATER - SCRN.	X	X	X		
HEATER - PLT.	X	X	X	X	
HEATER - SUP.	X	X	X	X	X
CATH. - GRID.		X			
CATH. - SCRN.		X	X		
CATH. - PLT.		X	X	X	
CATH. - SUP.		X	X	X	X
GRID. - SCRN.			X		
GRID. - PLT.			X	X	
GRID. - SUP.			X	X	X
SCRN. - PLT.				X	
SCRN. - SUP.				X	X
PLT. - SUP.					X

A two position toggle switch associated with the SHORTS TEST circuit provides a NORMAL test voltage of 100V peak and a LOW test voltage value of 50V peak The NORMAL test voltage position should always be used except in cases specifying a LOW test voltage under NOTATIONS on the Roll Chart.

HEATER CATHODE LEAKAGE

A particularly troublesome defect in tubes, especially those used in television, is a leakage between heater and cathode. This leakage may be quite high, sometimes running to several megohms. It may be too high to cause the neon lamp to glow in the ordinary way. However, these leaks may be detected on your new Model KS-15750-L1.

You will note that a heater-cathode short will cause the neon lamp to glow on position 1 (one). While the short switch is resting on position 1 during short test operation a condenser will be charging through the leak. If the switch is turned from position 1 to position 2, a sharp flash of the neon lamp will be seen. This will not repeat until the switch is again turned to position 1 allowing the condenser to recharge through the leakage.

This high resistance leakage test should be made for both positions of the NORMAL-LOW toggle switch when investigating difficult heater-cathode faults. Heater-cathode shorts so indicated will be in the order of 0.7 megohm or higher.

7. NOISE TEST. The short test circuit is also used in making noise test on vacuum tubes. Connections are made from the noise test jacks to the antenna and ground posts of any radio receiver. The tube under test is tapped with the finger as the SHORTS switch is turned through positions 1-2-3-4-5.

Intermittent disturbances which are too brief to register on the neon lamp will be reproduced by the loud speaker as static.

8. GAS TEST. Gas current in a tube or grid leakage current due to poor grid to filament insulation may be detected by the switch insertion of the Micromhos Meter into the grid circuit of a tube under test. In this setup the normal plate and screen grid voltages are applied by means of the P4 pushbutton switch. This test is made with the usual setting of the BIAS ADJUST dial as for a regular trans-conductance measurement. In addition, the gas test P5 Push Switch is operated which transfers the DC Micromhos Meter from its normal plate circuit position directly into the control grid circuit to measure grid current, if any, directly in DC microamperes. The "SIG. OFF" P6 switch also is simultaneously operated with the P6 switch to remove the grid signal for the test, for the presence of a grid signal could, in certain cases, produce false readings. In this test, the Micromhos Meter, used as a DC Microammeter is in series in the grid circuit. Under the test conditions just described the Micromhos Meter will read about 2 microamperes per small scale division.

9. DYNAMIC TRANSCONDUCTANCE. The Push Switch P4 is mechanically divided into two section, non-locking and locking. Both sections perform identical electrical functions. If momentary contact is needed, press the non-locking button.

If extensive tests are to be made, use the locking button. The locking button is released by pressing the non-locking button.

The indicating meter will register the tube's value in eight ranges: 3000, 6000, 15,000 Micromhos with HIGH Signal; 60,000, 30,000, 15,000, 6000, Micromhos with LOW Signal. A "SHUNT" range is also provided to be used when checking Diodes and Rectifier tubes.

The Micromho switch automatically changes the signal from HIGH to LOW when the appropriate setting is made.

On the roll chart following "SELECTORS" is a column designated "BIAS VOLTS". This is the negative grid bias to be applied to the tube being tested. The voltage is read on the small grid bias voltmeter in the upper left of the control panel. Bias voltage is read in two ranges, 0-5, and 0-50 D. C. volts.

Directly above the grid bias voltmeter are two binding posts which are normally shorted by an attached bar. These posts are marked SELF BIAS + (pos.) and -(neg.). They provide means for inserting a self biasing resistor into the cathode circuit of the tube being tested. These posts are bridged, within the tester, by a 2000 mfd capacitor. When using self bias set the normal bias to zero volts. The SELF BIAS posts should always be strapped by the shorting link when not required to avoid possible damage to the low voltage rated 2000 MF shunt condenser, particularly in VR tests.

For certain tubes Roll Chart settings are given for a SELF BIAS Gm test in addition to a voltage BIAS TEST. Either test may be used, but usually the SELF BIAS Gm test will provide more consistent results. The required value of SELF BIAS resistance is always found under the NOTATIONS column.

NOTE

A suitable low resistance D. C. milliammeter connected between these posts will measure the total cathode current.

The Micromho values printed on the data roll are minimum values. A satisfactory tube should read above the value given on the chart.

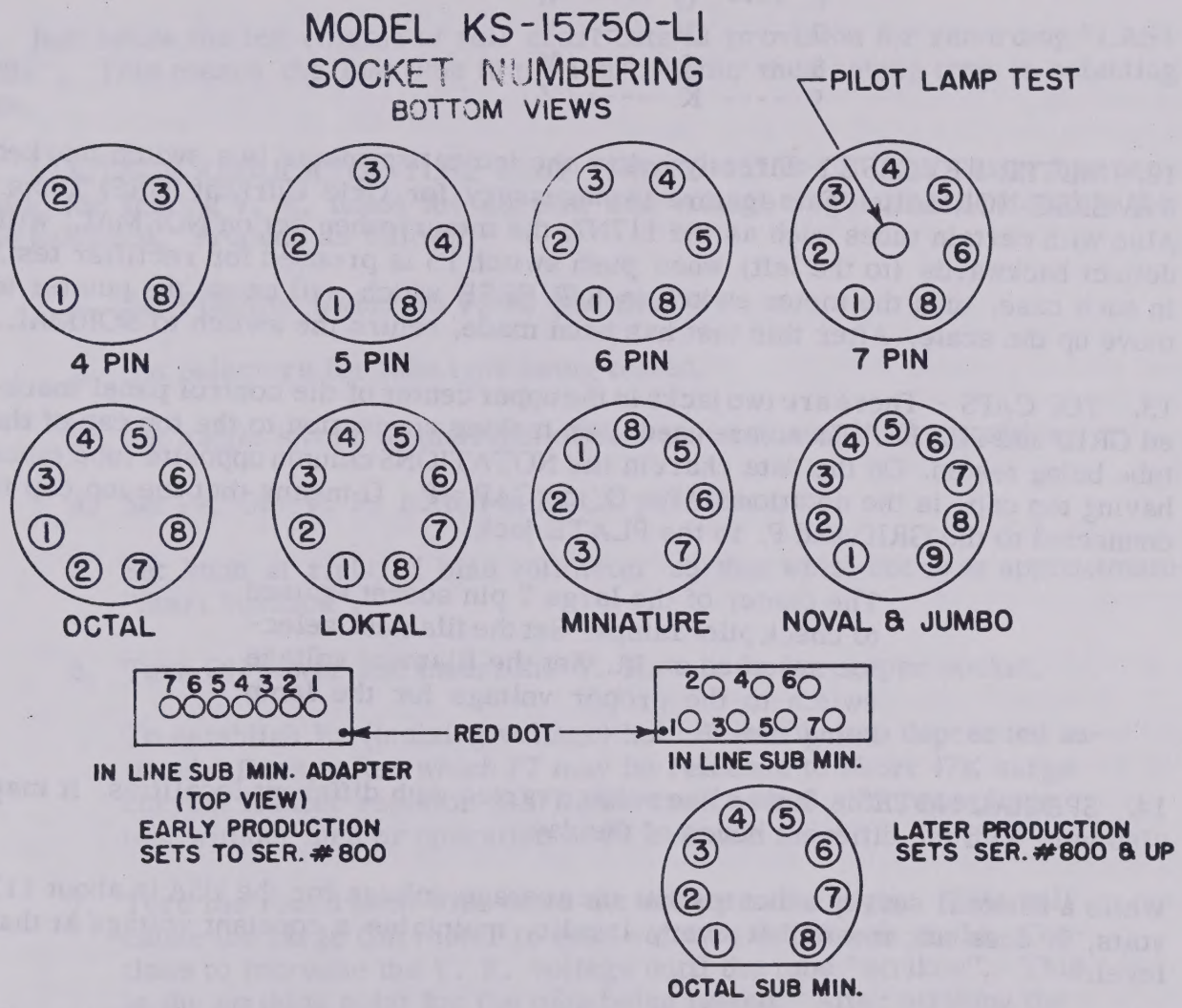
10. RECTIFIER TEST. The push switches P1, P2, and P3 are used to test various types of rectifier elements.

a. The push switch P1 is used when testing detector diodes. It applies a low AC voltage which will not injure the delicate cathode. Good diodes will cause the meter pointer to read above the mark, DIODES OK. P1 also reduces the screen voltages to 1/2 normal value. Instructions for its use appear in notations column of the data chart.

b. Push switch P2 is used when testing cold cathode rectifiers such as the OZ4. This applies an AC voltage sufficiently high to ionize the tube and start conduction. Good tubes will read above the scale mark "RECTI-

FIERS OK".

c. Push switch P3 is used when testing ordinary rectifier tubes such as the 5Y3. This switch applies the proper AC voltage in accordance with the standard rectifier emission test. Good tubes will read above the scale mark "RECTIFIERS OK".



11. SOCKET NUMBERING. In order to reduce dialing to a minimum, the sockets in the Model KS-15750-L1 Tube Tester are numbered as shown above. The numerical values of the lettered dials are as follows:

The letter "I" was omitted because of its resemblance to the figure "1". The letter "Q" was omitted because of its resemblance to the figure "O".

0	----	A	----	P
1	----	B	----	R
2	----	C	----	S
3	----	D	----	T
4	----	E	----	U
5	----	F	----	V
6	----	G	----	W
7	----	H	----	X
8	----	J	----	Y
9	----	K	----	Z

12. METER REVERSE - Directly below the indicating meter is a switch marked REVERSE-NORMAL. This feature is necessary for Grid Current (GAS) Tests. Also with certain tubes such as the 117N7, the meter, when set on NORMAL, will deflect backwards (to the left) when push switch P3 is pressed for rectifier test. In such case, turn the meter switch to REVERSE which will cause the pointer to move up the scale. After this test has been made, return the switch to NORMAL.

13. TOP CAPS - There are two jacks in the upper center of the control panel marked GRID and PLATE. These are used when making connection to the top cap of the tube being tested. On the data chart in the NOTATIONS column opposite tube types having top cap, is the notation CAP = G, or CAP = P. G means that the top cap is connected to the GRID and P, to the PLATE jack.

The center of the large 7 pin socket is used to check pilot lamps. Set the filament selector switches on JR. Set the filament voltage switch to the proper voltage for the lamp being tested.

14. SPECIAL NOTES - Power line voltage varies with different localities. It may also vary with the different hours of the day.

While a national survey indicates that the average voltage for the USA is about 117 volts, it does not mean that every locality maintains a constant voltage at that level.

Occasionally we have had the complaint that a used tube will test GOOD, but will not work in the radio receiver; but when a NEW tube is substituted, the receiver will operate correctly. The answer is this: Tubes are built to specifications. Our tube testers are designed to test tubes in conformity with these specifications.

The used tube that would not perform in a certain receiver was not receiving its specified filament voltage. The new tube performed because of its initial reserve capacity. The used tube would have performed if it had received its specified filament voltage.

Tube failure frequently occurs in A. C. -D. C. sets where several tubes are connected with their heaters or filaments in series. Sometimes even though the power line voltage is normal, a series tube with abnormally high filament resistance

will rob its companion tube of its normal filament voltage. The robbed tube apparently fails; but when tested under specified conditions, the tube will test GOOD.

15. MATCHING TUBES - The Model KS-15750-L1 is valuable in matching tubes for push-pull stages and other applications where matched tubes are essential.

16. Just below the left column of roll chart data is provision for recording "LAST TUBE". This means the last tube in the left column, thus saving time in selecting data.

17. VOLTAGE REGULATOR TUBE TEST - The KS-15750-L1 Tube Tester has provision for testing V. R. tubes for current and voltage regulation as listed in the tube handbook. Proceed as follows:

1. Set Function Switch to V. R. position.

2. Set Selectors for tube type being tested.

3. Set toggle switch at the right of bias voltmeter to V. R. position.

4. Set P4, Gm-V. R. button in LOCK position.

5. Set knob at right of bias voltmeter so that white dot is at approximate "Start Position".

6. Turn ON power and insert the V. R. tube in its proper socket.

   To establish Ez (ionizing voltage) hold P7 pushbutton depressed until tube fires, after which P7 may be released to short 47K surge current limiter resistor (R57). Proceed with sustaining voltage test without further operation of P7 button.

7. Turn the round knob with white dot slowly to the right. This will cause the large Gm meter to read volts on 0-200 volt scale. Continue to increase the V. R. voltage until the tube "strikes". This is the striking point for the tube being tested. After striking the voltmeter will drop back to a sustaining voltage condition. The 2-inch bias meter will nowregister the V. R. tube's plate current on the tube through its normal milliampere range. The large voltmeter will register the voltage change or regulating voltage range. After completing V. R. test, return controls to normal, and restore V. R. pot. with white knob to extreme left (counter clockwise) position.

18. NORMAL OR LOW PLATE & SCREEN VOLTAGE - In the lower right of the control panel is a switch for selecting NORMAL (150V) or LOW (65V) plate volts and NORMAL (130V) or LOW (65V) screen volts when testing any tube. The plate and the screen volts are simultaneously normal or low. If a tube requires low voltage for test an appropriate indication will appear in the NOTATIONS column of the data chart.

19. 600 MICROMHO RANGE - A low micromho (600) range is incorporated in the KS-15750-L1 Tube Tester. This is provided to make more accurate tests on subminiature and other tubes that require low plate and screen voltages. When the function switch is set on the 600 position low plate, low screen and low (1 volt) signal are automatically applied to the tube under test.

Sets with serial numbers above 1300 are provided with an auxiliary 1200 micromho meter range used in conjunction with the 1 volt signal 600 micromho range FUNCTION switch setting. Operation of the non-locking push switch located below the FUNCTION switch supplies a 1/2 volt grid signal in conjunction with the 600 range switch position thus obtaining 1200 micromhos full scale. This is read on the meter as 600 x 2 and this push switch is so designated. The supplementary 1200 micromho range is intended to obtain better overlap for lower Gm measurements between the 600 and 6000 ranges.

20. SUBMINIATURE TUBES - Early Production sets (to Ser. No. 800). Seated in a noval socket mounted below the surface of the control panel is a type 1175 adapter for the purpose of testing IN-LINE subminiature tubes. This adapter can be replaced when it becomes worn. For short lead circular base subminiature tubes, a similar type 1176 adapter should be provided.

Later Production Sets. Testers with Serial Numbers above 800 are equipped with a permanently wired combination in-line and circular octal subminiature test socket fixture located just above the GRID and PLATE jacks on the main panel.

21. PIN STRAIGHTENERS - In the upper center of the control panel are permanently mounted 7-pin and 9-pin straighteners. All 7 and 9-pin button base tubes should be inserted into these pin straighteners first. This will greatly prolong the life of the regular sockets.

22. LIFT RINGS - On the left and right edges of the control panel are provided lift rings which greatly facilitate the removal of the instrument from the carrying case in case of inspection.

23. JACKS FOR A. C. METER - Immediately beneath the 2" square line voltage meter are two jacks wired in parallel with the voltmeter. These are for the purpose of checking the calibration of the A. C. voltmeter.

OPTIONAL ACCESSORY EQUIPMENT

FOR USE WITH KS-15750-L1 TUBE TESTER

Beginning with Serial No. 800, June 1956*

1. SPECIAL TEST ADAPTERS

(a)	For 4 pin base W. E. Co. Tubes (101, 102, or 104 type codes)	Alden No. 944 WEB
(b)	For 4 pin base W. E. Co. Tubes (205 type codes)	Alden No. 978 WEB
(c)	Acorn types (950) series	Alden No. 978 ATA
(	For Subminiature types	
(d)	RAYTHEON in-line long lead	Raytheon No. 7AX51
(e)	SYLVANIA octal long lead	Sylvania No. V24-198

2. DECADE RESISTOR UNIT

1110 ohms total, 1% accuracy, 3 decades with 1, 10 and 100 ohm steps. To facilitate self bias Gm testing.

DAVEN type 4416B Decade Resistor Unit with spade terminal connector cord to SELF BIAS jacks, designed to mount in right side of cord compartment with mounting screws.

3. AUXILIARY SOCKET DEVICES

To prevent excessive wear of most used test sockets.

VECTOR No. 1262 Socket Extender - for Octal Socket (Hickok Code: 1050-39)
VECTOR No. 1263 Socket Extender - for 9-pin Min. Socket (Hickok Code: 1050-40)
VECTOR No. 1264 Socket Extender - for 7-pin Min. Socket (Hickok Code: 1050-41)

NOTE: Similar socket savers of other manufacture are available.

*Testers beyond Serial No. 800 now incorporate subminiature test socket combination (Code No. 19350-220) permanently mounted on panel with fixed wiring to provide for in-line and octal short lead S. M. tubes.

TO TEST BALLAST TUBES

1. Turn Tester on.
2. Set filament switch to BLST.
3. Set SHORT TEST switch on position 5.
4. Set first selector switch (lettered A to K) to letter shown in column marked (first selector) - set all numbered selectors on zero.
5. ROTATE second selector switch (lettered P to Z) from P to Z. NEON LAMP SHOULD LIGHT IN POSITIONS NOTED.

TUBE TYPE	First Selector	Neon lamp should light in these positions								
1A1-1B1-1C1-1E1-1F1-1G1-1J1-1K1-1L1-1N1-1P1-1Q1-1R1G-1S1G-1T1G-1U1G-1V1-1Y1-1Z1-2	J	R								
2UR224	J			T				X		
2LR212	H	R	S		U					
3	J	R								
03G	J			T						
4-5	J	R								
6-133	J			T						
6-6AA	J	R								
7-8-9	J	R								
10A-10AG	J			T						
10AB	J			T				X		
K17B-M17C-BM17C	J			T				X		
M17HG-M17H	J		S					X		
	D	R								
K23B-K23C-KX23B-KX30C	J			T				X		
M30H	J		S					X		
	D	R								
30A-K30A	J			T						
K30D	J	R		T				X		
33A-33AG	J			T						
K34B	J			T				X		
36A	J			T						
K36B-BK36B-L36B-BM-L36C-KX36C	J			T				X		
KX36A	J	R								
36D-L36D	J	R		T				X		
L36DJ	J	R		T	U			X		
K36H-M36H-M36HG	J		S					X		
	D	R								
L40S1-L40S2	J	R		T		V				
42A	J			T						
42A1	H				U					
42A2-42B2	H		S		U					

TUBE TYPE	First Selector	Neon lamp should light in these positions								
K42B-L42B-M42B-KX42B-LX42B-L42BX-K42C L42C-M42C	J			T				X		
KB42D-K42D-L42D	J	R		T				X		
LX42D-L42DX	J	R	S	T						
K42E-L42E	J			T				X		
L42F	J							X		
	D	R								
42HA-K42HJ-M42H-M42HG	J		S					X		
	E	R		T						
KX42C	J			T				X		
L42S1	J	R		T		V				
49A-49AJ-K49AJ	J			T						
KX49A	J			T				X		
49A1	H				U					
49A2-49B2	H		S		U					
K49B-L49B-M49B-BM49B-K49C-M49C-BM49C-BK49C-K49E-L49E	J			T				X		
K49D-BK49D-L49D	J			T				X		
L49F	J							X		
	D	R								
M49H-M49HG	J		S					X		
	D	R								
KZ49B-KZ49C	J	R				V				
K49BJ-L49BJ	J			T	U			X		
L49S2	J	R		T		V				
49AJ-K49AJ	J			T						
KX49B-LX49B-LX49C	J			T				X		
L49DJ	J	R		T	U			X		
L49S3	J	R		T		V				
50A2	J	R		T						
50A2MG-50B2	J	R				V				
50X3	J	R								
K52H-M52H	J		S					X		
	D	R								
K54B	J			T				X		
55A-K55A	J			T						
55A1	H				U					
KX55A	J	R								
55B-K55B-M55B-BM55B-L55BG-LX55B	J			T				X		
55A2-55B2	H		S		U					
K55C-L55C-KX55C	J			T				X		
K55CP	J			T		V		X		
K55D-L55D	J	R		T				X		
L55E-M55E	J			T				X		
L55F-M55F-BL55F	J							X		
	D	R								
K55H-M55H-M55HG	J		S					X		
	D	R								

TUBE TYPE	First Selector	Neon lamp should light in these positions								
L55S1-L55S2	J	R		T		V		X		
60R30G	J	R		T						
64. 23	J			T						
67A	J			T						
K67B-L67B	J			T				X		
L73B-K74B-L74B-CX74C	J			T				X		
80A	J			T						
K79B-K80B-M80B-K80C-KX80B-L80B	J			T				X		
K80F	J							X		
	D	R								
KX87B-LX87B-L90B	J			T				X		
K90F-M90F-K92F-M92F	J							X		
	D	R								
92A	J			T						
L92B-95K2	J			T				X		
L99D	J	R		T				X		
100R8	J			T				X		
120R	J	R								
120RS-135K1	J			T				X		
135K1A	J			T	U			X		
140L4-140L8-140R4-140R8	J	R		T						
140R	J	R								
140L44-140R44	J	R	S	T						
165L4-165R4-165R8	J	R		T						
165R	J	R								
165L44-165R44	J	R	S	T						
185L4-185L8-185R4-185R8	J	R		T						
185R	J	R								
185L44-185R44	J	R	S	T						
200R-250R	J	R								
250R8-290L4	J			T				X		
300R4-320R4	J			T				X		
340	J	R								
808-1	J			T	U			X		
E14980-W43357-W4588-3613	J			T				X		
3334-3334A	J	R		T				X		
8593-8598-8601-8664	J			T				X		
3ER248	J	R		T	U			X		
3CR241	J	R		T				X		
B9M15822	B			T						
	E					V				
	G							X	Y	
B9M16067	J	R		T		V	W	X		
B9M16275	B			T	U	V	W	X	Y	
B9M16534	J	R		T		V	W	X		
B9M17571	H	R		T						
	J				U	V		X		

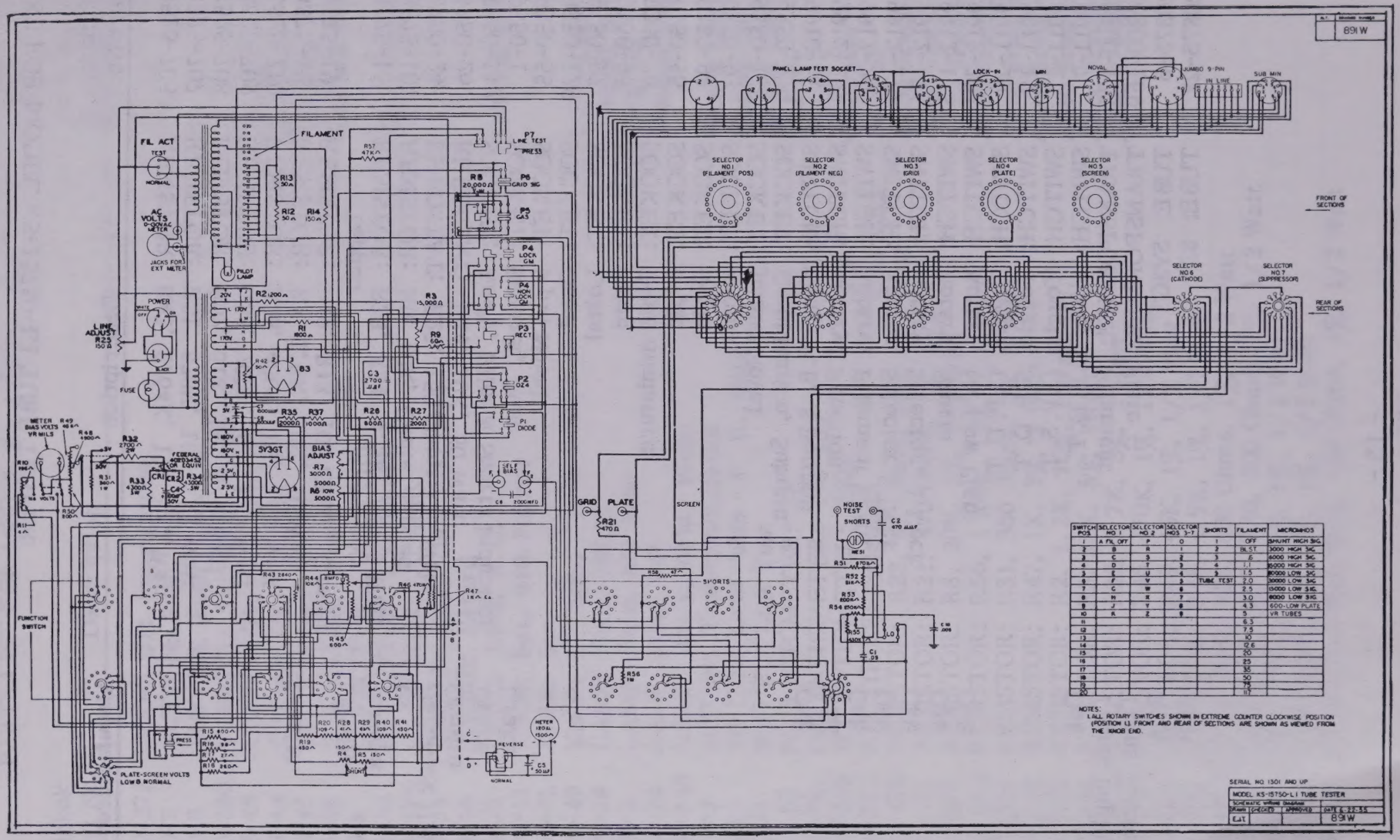
TUBE TYPE	First Selector	Neon lamp should light in these positions								
B9M18941	B			S	T					
	E						V			
	G								X	Y
17A470303	J		R	S			V			
	D					U				
	G								X	
17A485459	J		R	S				W		
	D					U				
TBR102D	B			S	T	U	V			
	G								X	Y
TBR103D	B			S		U	V			
	G								X	Y
TBR104D	B			S	T	U	V			
	G								X	Y
397021	B			S	T					
397022	E						V	W		
397023	J								X	
397036	C						V			
407100	J		R	S			V			
408100	J		R	S			V			
	D					U				
SW507300	J		R		T		V	W	X	
571606	B			S	T					
	E						V	W		
	J								X	

PARTS LIST FOR MODEL KS-15750-L1-L2 TUBE TESTER

Item No.	Hickok Part No.	Description		Manufacturer
1	2490-272	BOOKLET: Instructions		
2	2920-7	BUTTON: Push, Black		
3	2920-8	BUTTON: Push, Red		
4	3145-330	CABINET: Portable, Aluminum		
5	3085-43	CAPACITOR: 2000 mfd.		Sprague
6	3085-44	CAPACITOR: 100 mfd.		Sprague
7	3085-45	CAPACITOR: 50 mfd.		Sprague
8	3085-68	CAPACITOR: 8 mfd.		Cornell-Dubilier
9	3095-8	CAPACITOR: .00047 mfd.		
10	3095-50	CAPACITOR: 1500 mmfd.		Elec. Reactance
11	3105-175	CAPACITOR: .05 mfd.		
12	3200-54	CHART: Roll, Tube Test Data		
13	3250-44	CHOKE: Retard		
14	3675-26	CORD: Line, A.C.		General Electric
15	11500-11	KNOB: Bar, with Pointer		
16	11500-46	KNOB: Bar		
17	11500-49	KNOB: 1" Diam.		Kurz-Kasch
18	12270-14	LAMP: Neon, NE 51		General Electric
19	12270-2	LAMP: Fuse, #81 Auto		Tung Sol
20	12270-14	LAMP: Pilot, #47		General Electric
21	12450-145	LEAD: Ass'y, Grid - Plate		
22	440-663	METER: Transconductance		Hickok Electric
23	560-813	METER: Grid Volts - V. R. Mils		Hickok Electric
24	570-200	METER: Line Test		Hickok Electric
25	16925-63	POTENTIOMETER: 3K	R7	Mallory
26	16925-90	POTENTIOMETER: 150-150	R4-R5	Mallory
27	16925-259	POTENTIOMETER: 250K	R54	Centralab
28	18150-171	RECTIFIER: Selenium	CR1-CR2	Federal
29	18410-472	RESISTOR: R23, 47 Ohms, 10%, 1/2 Watt		Allen Bradley
30	18411-471	RESISTOR: R21, 470 Ohms, 5%, 1/2 Watt		Allen Bradley
31	18413-201	RESISTOR: R8, 20K, 5%, 1/2 Watt		Allen Bradley
32	18415-102	RESISTOR: R56, 1 Meg, 10%, 1/2 Watt		Allen Bradley
33	18421-361	RESISTOR: R31, 360 Ohms, 5%, 1 Watt		Allen Bradley
34	18422-101	RESISTOR: R47, 1K, 5%, 1 Watt		Allen Bradley
35	18422-122	RESISTOR: R2, 1.2K, 10%, 1 Watt		Allen Bradley
36	18423-151	RESISTOR: R3, 15K, 5%, 1Watt		Allen Bradley
37	18432-271	RESISTOR: R32, 2.7K, 5%, 2 Watt		Allen Bradley
38	18525-687	RESISTOR: R46, 470K, 1%, 1/2 Watt		
39	18525-697	RESISTOR: R49, 45K, 1%, 1/2 Watt		
40	18525-698	RESISTOR: R48, 4.9K, 1%, 1/2 Watt		
41	18525-699	RESISTOR: R26, 800 Ohms, 1%, 1/2 Watt		
42	18525-700	RESISTOR: R27, R50, 200 Ohms, 1%, 1/2 Watt		
43	18525-701	RESISTOR: R37, 1K, 1%, 1/2 Watt		
44	18525-702	RESISTOR: R35, 2K, 1%, 1/2 Watt		
45	18525-703	RESISTOR: R19, R41, 450 Ohms, 1%, 1/2 Watt		

PARTS LIST FOR MODEL KS-15750-L1 TUBE TESTER

Item No.	Hickok Part No.	Description	Manufacturer
46	18525-705	RESISTOR: R43, 2.64K, 1%, 1/2 Watt	
47	18525-707	RESISTOR: R51, 670K, 1%, 1/2 Watt	
48	18525-708	RESISTOR: R52, 51K, 1%, 1/2 Watt	
49	18525-709	RESISTOR: R53, 200K, 1%, 1/2 Watt	
50	18525-710	RESISTOR: R55, 430K, 1%, 1/2 Watt	
51	18575-12	RESISTOR: R1, 1.8K, 10%, 10 Watt	Ohmite
52	18575-19	RESISTOR: R12, R13, 100 Ohms, Center Tapped	Ohmite
53	18575-153	RESISTOR: R33, R34, 4.3K, 5%, 5 Watt	Sprague
54	18575-101	RESISTOR: R6, 10K, Center tapped	IR C
55	18750-24	RHEOSTAT: R25, 150 Ohms, 25 Watt	Hardwick Hindle
56	18750-26	RHEOSTAT: R44, 10K, 50 Watt	Ohmite
57	19350-112	SOCKET: Ass'y, Pilot & Shorts Indicator	Drake
58	19350-1	SOCKET: Bayonet, Fuse	Drake
59	19350-58	SOCKET: 9 pin Noval	
60	19350-129	SOCKET: Octal	
61	19350-97	SOCKET: Loktal	
62	19350-96	SOCKET: 7-pin	
63	19350-76	SOCKET: 7-pin miniature	
64	19350-95	SOCKET: 6-pin	
65	19350-94	SOCKET: 5-pin	
66	19350-93	SOCKET: 4-pin	
67	19350-135	SOCKET: Jumbo Noval	
68	19350-220	SOCKET: Combination, Submin.	
69	19910-61	SWITCH: Gang, P.B. 8 Buttons	Oak
70	19912-297	SWITCH: Rotary, Function	Oak
71	19912-202	SWITCH: Rotary, Filament Volts	Oak
72	19912-177	SWITCH: Rotary, Selector 5 Deck	Oak
73	19912-176	SWITCH: Rotary, Selector, 1 Deck	Oak
74	19912-175	SWITCH: Rotary, Shorts	Oak
75	19912-304	SWITCH: Rotary, Hi-Low Plate	Oak
76	19911-29	SWITCH: Toggle, D.P.D.T.	
77	19911-19	SWITCH: Toggle, S.P.D.T.	
78	19911-17	SWITCH: Toggle, D.P.S.T.	
79	19911-7	SWITCH: Slide, D.P.D.T.	Oak
80	20800-103	TRANSFORMER: Filament	Trans. Engineering
81	20800-169	TRANSFORMER: Plate	Trans. Engineering
82	20875-6	TUBE: 5Y3GT	RCA
83	20875-28	TUBE: 83	RCA



SWITCH POS	SELECTOR NO 1	SELECTOR NO 2	SELECTOR NO 3-7	SHORTS	FILAMENT	MICROMHOS
1	A	P	O	1	OFF	SHUNT HIGH SIG.
2	B	R	1	2	BLST	3000 HIGH SIG.
3	C	S	2	3	.6	6000 HIGH SIG.
4	D	T	3	4	1.1	10000 HIGH SIG.
5	E	U	4	5	1.5	30000 LOW SIG.
6	F	V	5	TUBE TEST	2.0	30000 LOW SIG.
7	G	W	6		2.5	15000 LOW SIG.
8	H	X	7		3.0	8000 LOW SIG.
9	J	Y	8		4.3	600-LOW PLATE
10	K	Z	9		5	VR TUBES
11					6.3	
12					7.5	
13					10	
14					12.6	
15					20	
16					25	
17					35	
18					50	
19					75	
20					117	

NOTES:
1. ALL ROTARY SWITCHES SHOWN IN EXTREME COUNTER CLOCKWISE POSITION (POSITION 1) FRONT AND REAR OF SECTIONS ARE SHOWN AS VIEWED FROM THE KNOB END.

SERIAL NO 1301 AND UP

MODEL KS-15750-L1 TUBE TESTER

SCHEMATIC WIRING DIAGRAM

DRAWN	CHECKED	APPROVED	DATE 6-22-55
Est			891W